ATLAS OF MEDITERRANEAN ENVIRONMENTS IN EUROPE: THE DESERTIFICATION CONTEXT edited by Paola Mairota, John B. Thornes and Nichola Geeson, John Wiley, Chichester, 1998. No. of pages: xviii + 205. Price: £225.00 (hb). ISBN 0-471-96092-6.

This book has several attributes expected in an atlas: it has a large format, good quality paper, a colourful map of Mediterranean Europe on the covers and a three-figure Sterling price. Anyone anticipating that it would comprise a 'volume of maps' would, however, be disappointed. Instead, much of it has the appearance of a collection of very well produced conference posters, which is reinforced by the mainly 1–4 page, single- and multi-authored contributions, topic boxes and bullet points. The volume draws mainly on work by participating scientists of the MEDALUS Project concerned with desertification in Mediterranean Europe and funded by the European Commission. It is subdivided into six chapters and includes glossaries of terms and plant species and lists of references and MEDALUS publications. The Introduction briefly outlines desertification in Europe, European Commission-funded desertification programmes and the MEDALUS Project followed by examples of other European Commission projects. Chapter 2 deals with Semi-natural Environments and Processes including, for example, sections on recent and future climatic change and runoff and erosion. Chapter 3 considers Socio-economic Processes and Change with a useful overview of the history of Mediterranean land use. Chapters 4 and 5 comprise respectively Field Studies and Regional Studies. Finally, there is a brief overview entitled Results and Prospects, with prospects for future MEDALUS work.

The text has few errors, though the fluency varies as might be expected with extensive editing of manuscripts submitted by many authors for whom English is not their first language. There are some shortcomings. For example, a fundamental map showing areas vulnerable to desertification is not found in Chapter 1, as might be expected, but is reproduced at a small size in section 2.6. No indication of the basis for the definition of desertification or a reference is given. A glitsch seems to have affected the production of a number of the diagrams with box symbols sprinkled amongst keys and labels. No reference is made to the figures in the text, making the three-level numbering system for figures seem superfluous. The glossary is quirky, defining, for example, garden but not rills, pipes or tunnels!

The volume represents an attractive, if expensive introduction to MEDALUS Project results, with much to interest the geomorphologist specializing in soil erosion processes. It is a pity, however, that it does not provide a fresh overview of desertification in the context of Mediterranean Europe.

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FLUVIAL FORMS AND PROCESSES by David Knighton, Arnold, London, 1998. No. of pages: xv + 383. Price: £18.99 (pb). ISBN 0-340-66313-8.

Given the popularity of fluvial geomorphology at an undergraduate level it is, perhaps, surprising that there are not more textbooks on the discipline to choose from. In part, this must undoubtedly reflect the difficulties would-be authors face in synthesizing the huge and diverse body of relevant literature. In this respect, David Knighton is to be congratulated in producing a thoroughly updated and a highly readable edition of his 1984 book *Fluvial Forms and Processes*

The organization of the book remains essentially unchanged. The brief introductory chapter considers how perceptions of form–process relationships change with scale and how these perceptions are reflected in different approaches to geomorphological study. Chapter 2 is concerned with drainage networks and proceeds logically from network analysis to network evolution via sections on hillslope erosional processes and channel initiation. Chapter 3, on catchment processes, is divided into two sections. The first contains a short discussion of catchment hydrology with particular reference to stream-flow generation and flood routing, whilst the second discusses solute loads, sediment yields and sediment budgets in a succinct review of catchment denudation. Fluvial processes are considered in Chapter 4 which describes the mechanics of open channel flow, thresholds of erosion and sediment transport and depositional processes. Concepts of equilibrium and dominant discharge are introduced in Chapter 5 which goes on to consider cross-section morphology, bedforms, channel pattern and channel gradient. The book closes with a chapter on the response of fluvial systems to environmental change and anthropogenic impacts.

The emphasis of the book remains on rivers as historical, rather than physical systems. There is, therefore, far more on channel form and channel adjustment (185 pages) than on channel processes (45 pages). Although there is some attempt to link the two perspectives, the rather cursory treatment of processes makes it difficult. Indeed, many processes are discussed either too loosely or too briefly for them to be understood and their significance fully appreciated without some prior knowledge. The book's strength, therefore, lies in the way it links empirical observations to geomorphological concepts, rather than physical principles.

The book is clearly written and incorporates many new diagrams, line drawings and tables of compiled data and

empirical relationships, all of which are clearly reproduced and labelled. The bibliography contains over 800 references, one-third of which are post-1990 (for comparison, the 1984 edition contains just over 400 references, only about 20 of which post-date 1980). Notwithstanding the imbalance between form and process, Knighton's expert synthesis of such a vast literature will be welcomed by students and teachers alike.

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INTRODUCTION TO GEOMORPHOLOGY by Frank Ahnert, Edward Arnold, London, 1998. No. of pages: viii + 352 . Price: £19.99 (pb). ISBN 0-340-69259-6.

Geomorphology, the science investigating the landforms of the Earth, today offers the practitioner or student the opportunity to apply a great range of skills to a large set of complex multivariate problems beset with issues of scale and legacies from the past. The development of an integrated introduction to this wide-ranging science from the fundamental exogenetic–endogenetic controls of landform characteristics to a lucid review of the questions posed by geomorphology and the methods available to solve them is now a challenging task for a single author. The risk of merely providing a list of classifications and concepts is always present, but in this volume it has been avoided through the inclusion of much drawn directly from the author's own experience and writing. As with Michael Thomas' *Geomorphology in the Tropics*, this book is also helped by many fine illustrations from the author's extensive photographic collection.

Frank Ahnert is one of the foremost international geomorphologists, as widely known in the English-speaking world as he is in Germany. The knowledge he has of the German and English language literature is put to great effect in his book, drawing on the concepts and points-of-view that have influenced geomorphology in Germany, Britain and North America. Thus definitions and classifications are prominent, with some excellent accounts of the variety of springs, waterfalls and valley heads. Equally, attention is given to process–response systems and dynamic equilibrium with frequent reference to process–form relationships.

One of the great strengths of the book is the way the author uses versions of his SLOP3D model to explain the evolution of different landform types. This works particularly well for the discussion of process-specific slope forms in Chapter Nine. Another strength is the discussion of the role of structure and structural landforms in Chapter Twenty. Most of this is extremely clear. Much attention is given to cuesta landscapes, prominent in Europe, Britain and North America, with elegant use of the SLOP3D model. Unfortunately, there is a lapse in the general high quality of illustrations in the use of an over-reduced, elaborately shaded, map of the south German cuesta scarplands.

The sections dealing with the links between hillslope processes and channel processes are stimulating, with the discussion of how the slope hollow functions as a *coupling point* between the slow, almost continuous creep processes and the intensive, but rare, removal of the debris by mudflows. The irregular removal of debris and differences in associated spatial magnitude frequency are dealt with well. Here lies the chief attraction of the book to the practising geomorphologist, the summaries of Frank Ahnert's own work, the applications of his own techniques and observations and the insights to problems derived from his wide experience.

The book provides a good review of the key literature in geomorphology, but it would be difficult to use as the sole text in a geomorphology course as some sections are just too brief, especially those on karst, glaciers and coasts. The eight pages on applications of geomorphology would probably have been better left out as they do little more than indicate the main publications in the field, and do not emphasize how much of today's activity in geomorphology is directly applied and how working on applied problems feeds back into greater general geomorphological understanding. This book should be available to students, should be read by all who want a broad international perspective of the discipline and by anyone interested in the way one of the leading geomorphologists of the last five decades sees his chosen field of study.

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